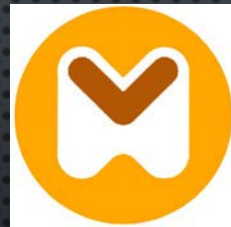


TODAY CROSSREF, TOMORROW THE WORLD: MANAGING XML CROSSWALKS WITH ALTOVA MAPFORCE



JEFFREY M. MORTIMORE
GEORGIA SOUTHERN UNIVERSITY

AGENDA

- BACKGROUND: IR SERVICES @ GEORGIA SOUTHERN
- GROWING CHALLENGE: MANAGING METADATA TRANSFORMATIONS
- OUR CURRENT SOLUTION: ALTOVA MAPFORCE
 - SOFTWARE OVERVIEW
 - DC → DOAJ CROSSWALK
- NEXT STEPS & BRAINSTORMING

BACKGROUND: IR SERVICES @ GEORGIA SOUTHERN

GEORGIA SOUTHERN UNIVERSITY

- 26,400 STUDENTS
- 141 DEGREE PROGRAMS
- 3 CAMPUSES - STATESBORO, SAVANNAH, & HINESVILLE

IR SERVICES

- 28 CONFERENCES & 13 JOURNALS
- 560+ SCHOLARLY PROFILES
- 50,600+ ARTIFACTS
- 2.9M DOWNLOADS
- 3 FTE STAFF

The screenshot displays the Digital Commons@Georgia Southern website. The header features the Georgia Southern University logo and the site title. A navigation bar includes links for Home, About, FAQ, and My Account. The main content area is divided into a left sidebar and a right main section. The sidebar contains a search bar, a 'Browse' section with links to Authors, Collections, Disciplines, and SelectedWorks Profiles, a 'Contribute Content' section with links to Submit Research, Request SelectedWorks Profile, Copyright Information, and Learn More, and a 'Links' section with links to University Libraries, PlumX Profiles, and Contact Us. The main section features a featured article titled 'The George-Anne' with a description and a 'View More' link. Below this is a 'Browse Research, Scholarship & University Publications' section with a grid of links to various collections, profiles, books, journals, conferences, theses, policies, partner collections, newsletters, and special collections. At the bottom, there is a map of Georgia showing live readership activity for Digital Commons@Georgia Southern, with a note indicating the map is waiting for the next download.

GEORGIA SOUTHERN UNIVERSITY

Digital Commons@Georgia Southern

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- [Electronic Theses & Dissertations](#)
- [Georgia Southern University Policies](#)
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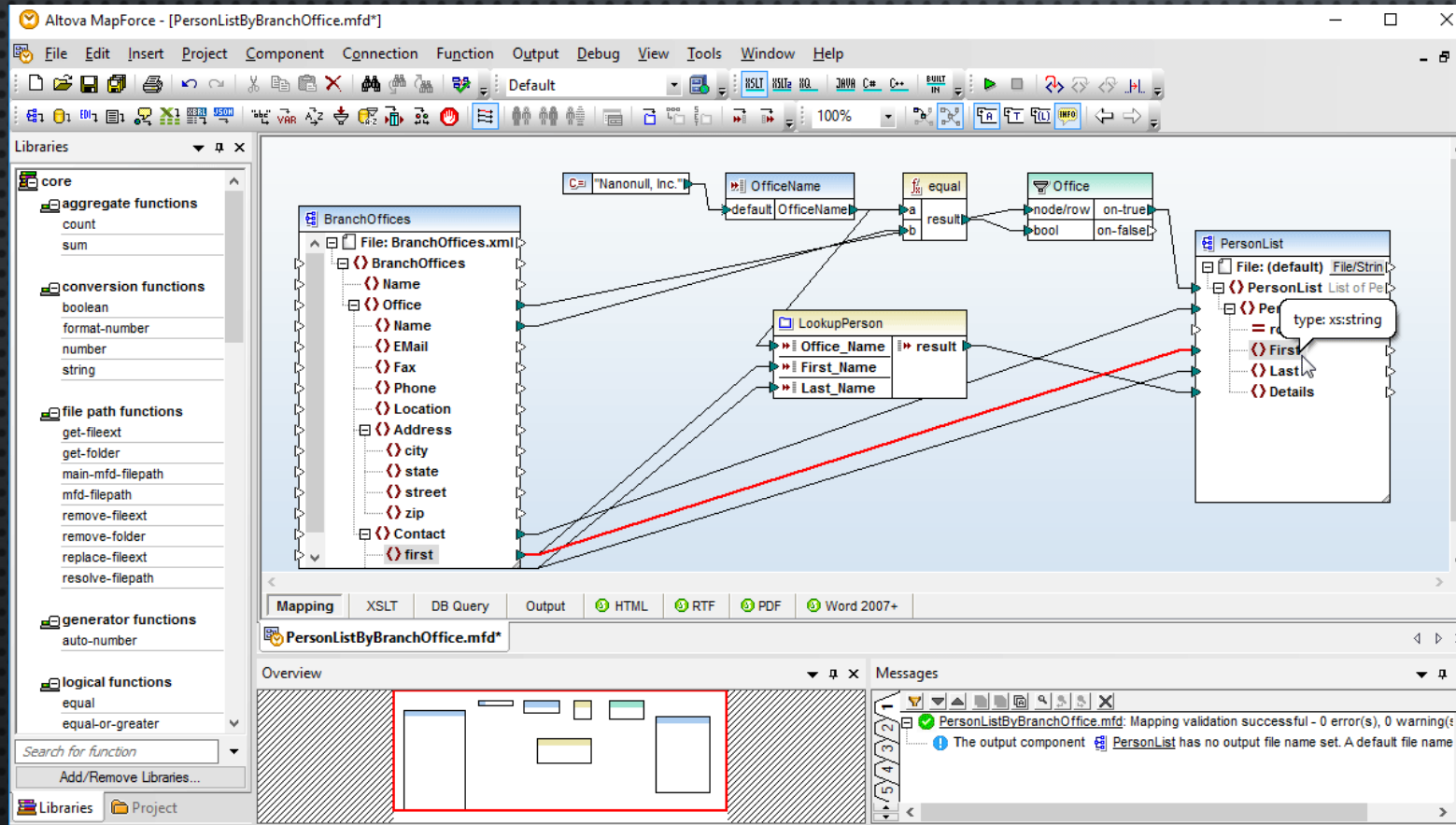
Digital Commons@Georgia Southern is an open-access digital repository that collects, archives, and disseminates the intellectual and creative output of the University's faculty, staff, students, and community partners. Digital Commons hosts contributions from across the campus and the community, including campus documents and publications, faculty and student research, conferences, journals, research data, news, and more.

Statesboro, Georgia, United States
Digital Commons@Georgia Southern
This map shows live readership activity for Digital Commons@Georgia Southern. Waiting for next download...

GROWING CHALLENGE: METADATA TRANSFORMATIONS

- EXPANDING REACH AND IMPACT REQUIRES EXTERNALIZING YOUR METADATA
 - DOI REGISTRATION (CROSSREF)
 - ARTICLE-LEVEL INDEXING (DOAJ & OTHER 3RD-PARTY INDEXES)
 - ETD CATALOGING, ETC...
- CROSSWALKS REQUIRE XML SKILLS (ESPECIALLY GIVEN ABILITY TO CUSTOMIZE FIELDS)
- OF COURSE, WE JUST HAPPEN TO BE SHORT ON XML EXPERTISE!
- REPOSITORY MANAGERS NEED TOOLS TO SIMPLIFY AND STREAMLINE THE PROCESS.

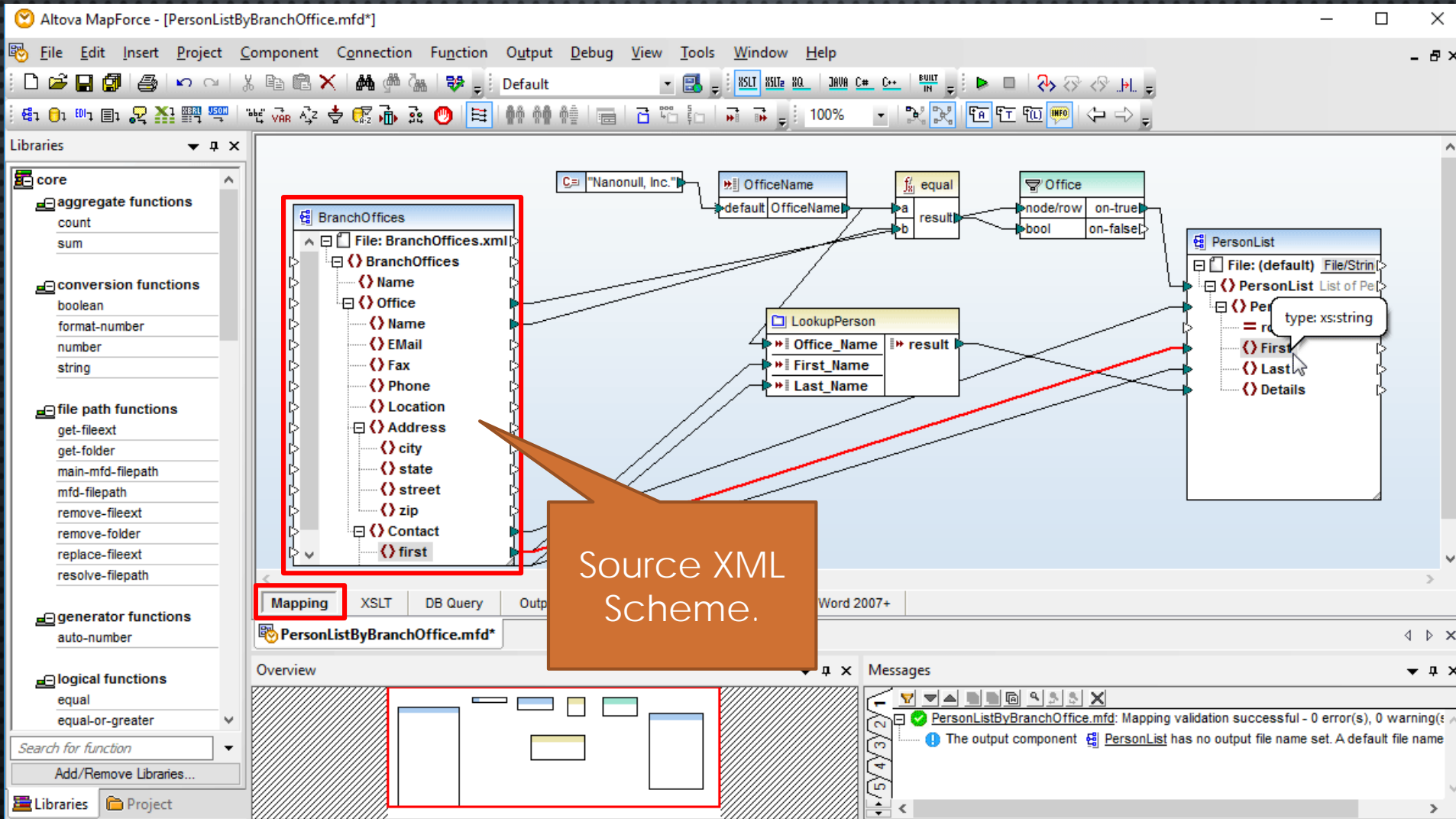
CURRENT SOLUTION: ALTOVA MAPFORCE



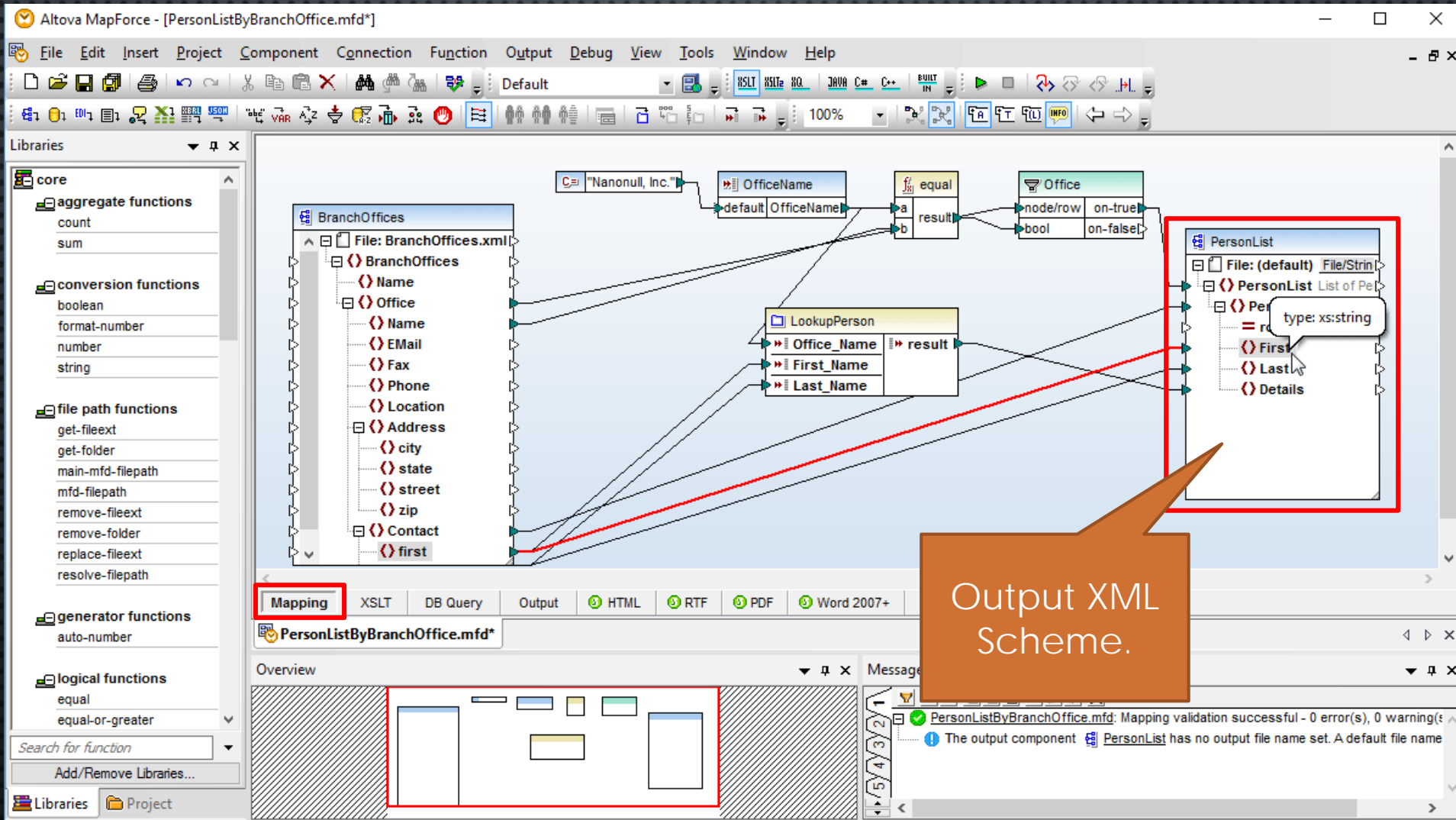
- INTUITIVE GRAPHICAL MAPPING TOOL FOR CONVERTING ANY STRUCTURED DATA, INCLUDING OAI-PMH, INTO ANY SCHEME WITHOUT SPECIALIZED KNOWLEDGE OF XML OR XSLT.
- HAS THE ABILITY TO DERIVE THE XML SCHEME FROM ANY EXAMPLE FILE.
- OUTPUTS XSL STYLESHEETS IN EITHER XSLT1 OR XSLT2, SUPPORTING MOST TRANSFORMATION WORKFLOWS (E.G., NOTEPAD++ WITH XML TOOLS).
- ONE DRAWBACK: \$\$\$\$



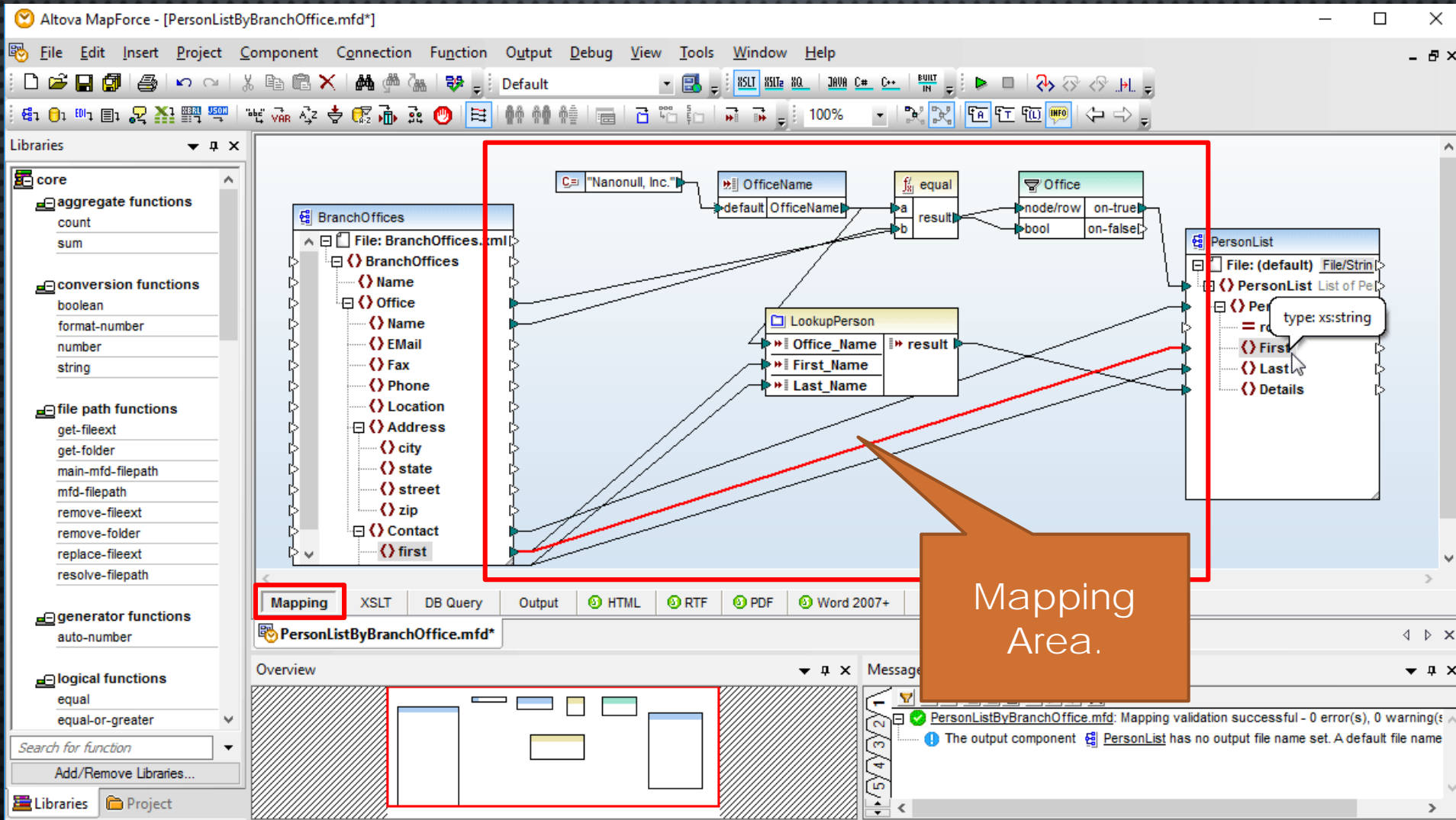
CURRENT SOLUTION: ALTOVA MAPFORCE



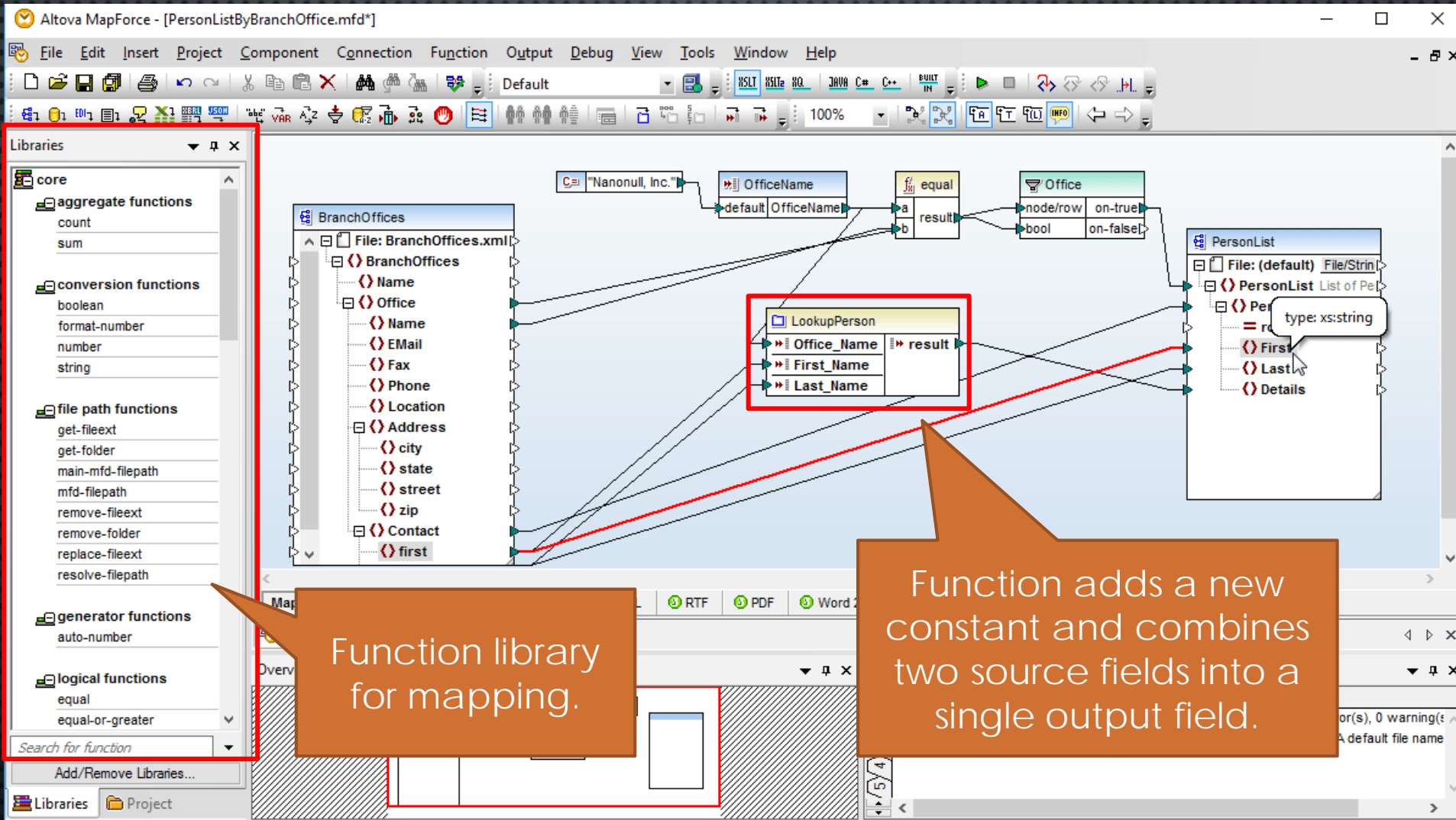
CURRENT SOLUTION: ALTOVA MAPFORCE



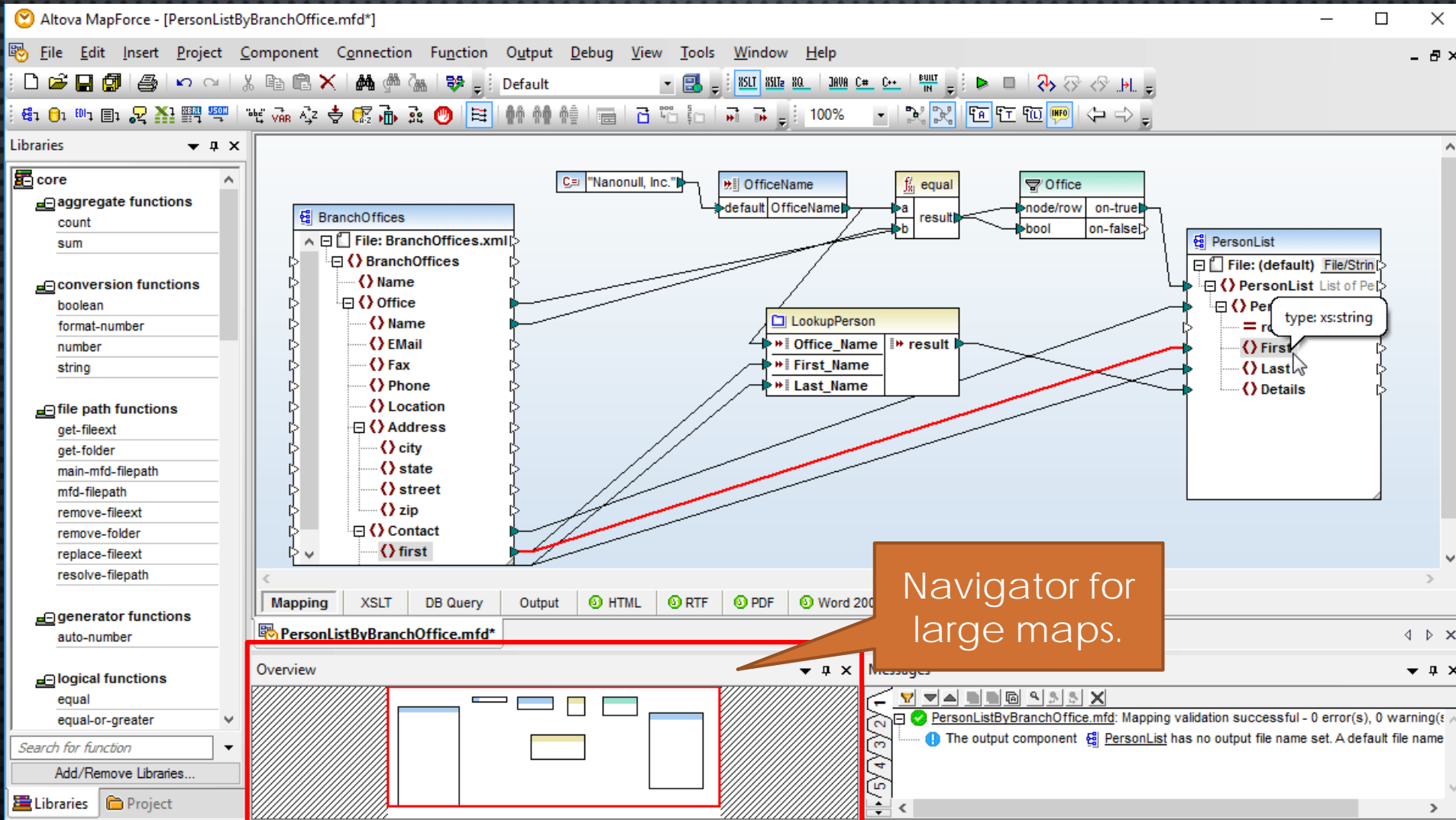
CURRENT SOLUTION: ALTOVA MAPFORCE



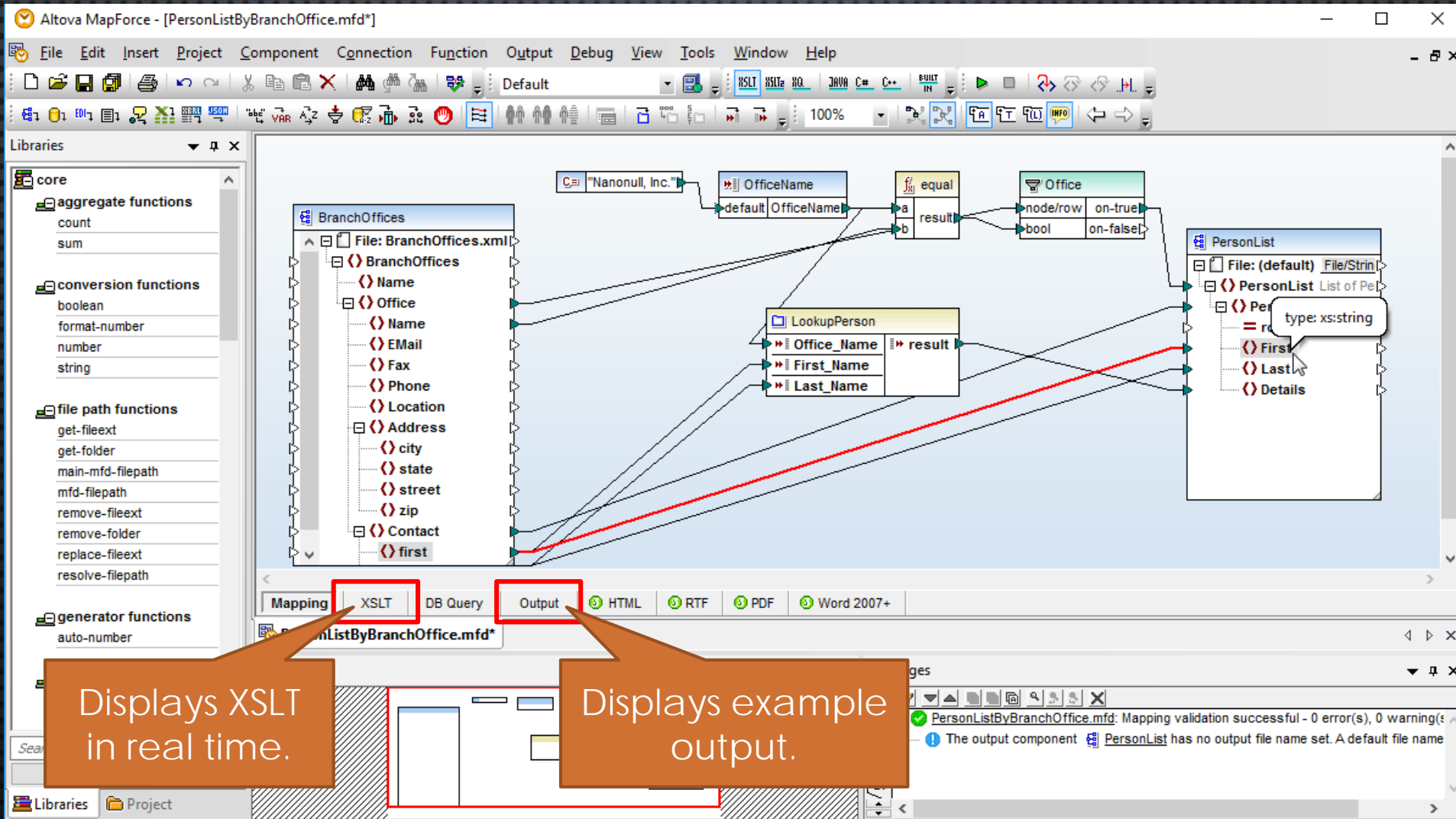
CURRENT SOLUTION: ALTOVA MAPFORCE



CURRENT SOLUTION: ALTOVA MAPFORCE

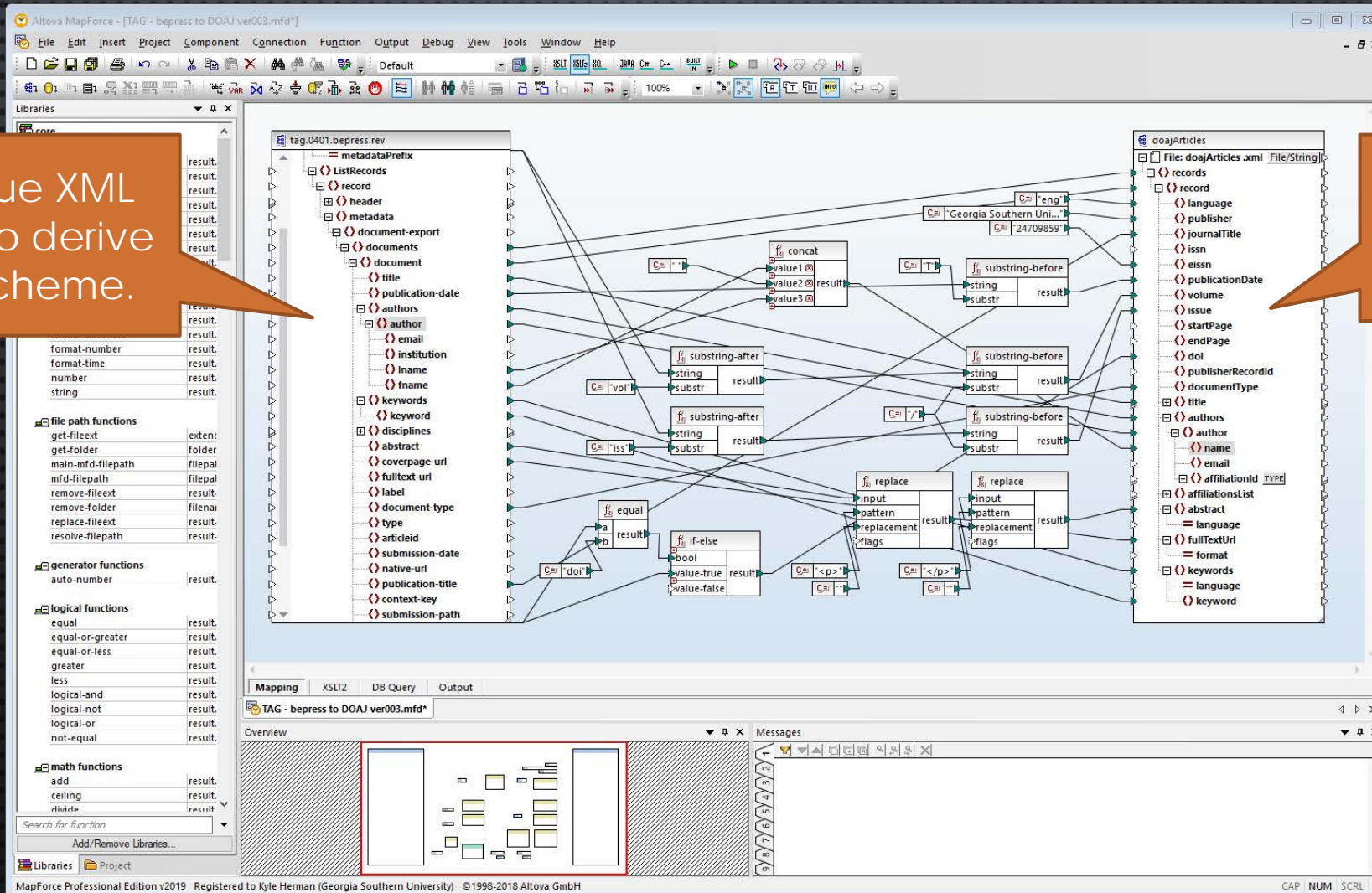


CURRENT SOLUTION: ALTOVA MAPFORCE



DIGITAL COMMONS → DOAJ NATIVE XML

Single issue XML file used to derive source scheme.



DOAJ Native XML file used as target scheme.

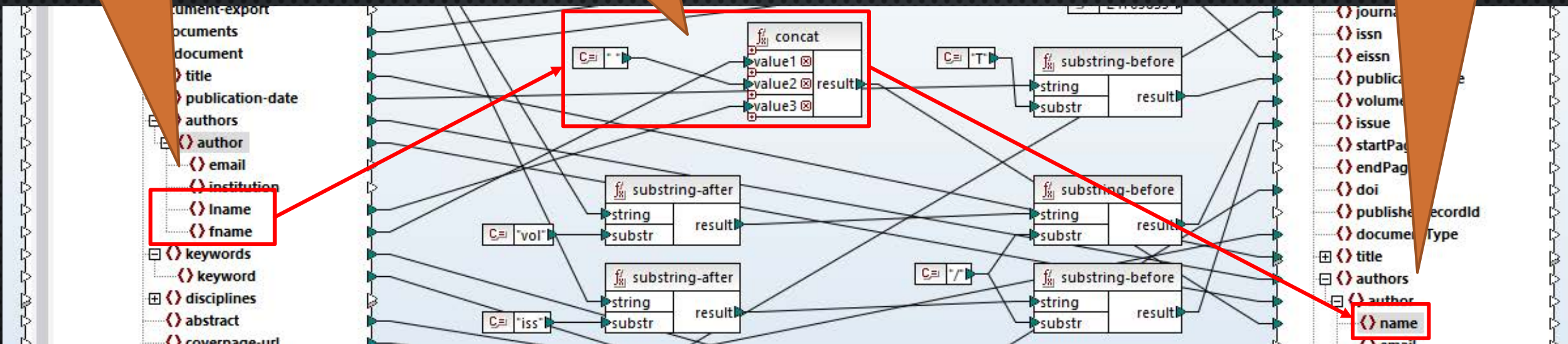
DIGITAL COMMONS → DOAJ NATIVE XML

EXAMPLE MAPPING: REFORMATTING THE AUTHOR NAME

Digital Commons uses two fields for last name and first name.

Concat function with " " constant inserted.

DOAJ uses one field in "FirstName Lastname" format.



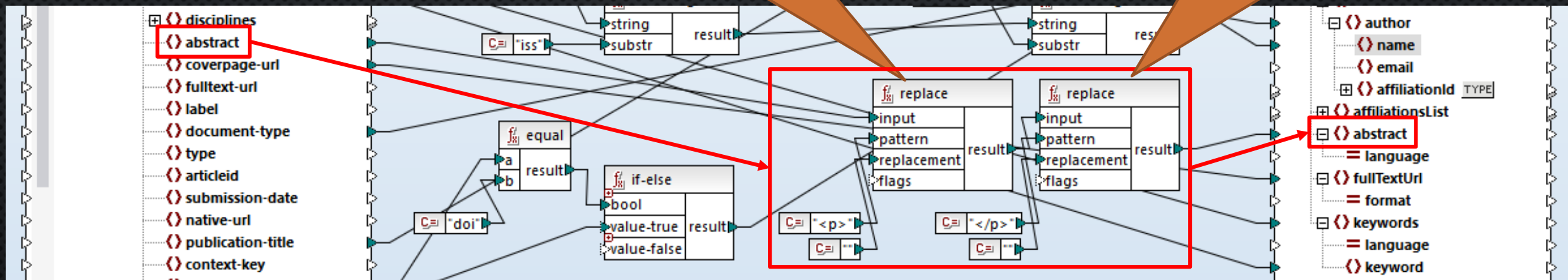
DIGITAL COMMONS → DOAJ NATIVE XML

EXAMPLE MAPPING: REMOVING HTML TAGS FROM THE ABSTRACT

Some functions require XSLT2, which may impact workflow.

First **Replace** function removes "<p>".

Second **Replace** function removes "</p>".



DIGITAL COMMONS → DOAJ NATIVE XML

The screenshot displays the Altova MapForce Professional Edition v2019 interface. The main window shows an XSLT2 mapping project titled "TAG - bepress to DOAJ ver003.mfd". The XSLT2 tab is active, showing the following code:

```
<?xml version="1.0" encoding="UTF-8"?>
<!--
This file was generated by Altova MapForce 2019
YOU SHOULD NOT MODIFY THIS FILE, BECAUSE IT WILL BE
OVERWRITTEN WHEN YOU RE-RUN CODE GENERATION.
Refer to the Altova MapForce Documentation for further details.
http://www.altova.com/mapforce
-->
<xsl:stylesheet version="2.0" xmlns:xsl="http://www.w3.org/1999/XSL/Transform" xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:fn="http://www.w3.org/2005/xpath-functions" exclude-result-prefixes="xs fn">
  <xsl:output method="xml" encoding="UTF-8" byte-order-mark="no" indent="yes"/>
  <xsl:template match="/">
    <records xmlns:iso_639-2b="http://www.doaj.org/schemas/iso_639-2b/1.0">
      <xsl:attribute name="xsi:noNamespaceSchemaLocation" namespace="http://www.w3.org/2001/XMLSchema-instance" select="'file:///I:/Altova/DOAJ%20XML%20Project%201018/DOAJ%20XML%20Project/doajArticles%20.xsd'"/>
      <xsl:for-each select="OAI-PMH">
        <xsl:variable name="var3_cur" as="node()" select="."/>
        <xsl:for-each select="ListRecords/record">
          <xsl:variable name="var2_document" as="node()" select="metadata/document-export/documents/document"/>
          <xsl:variable name="var1_set_as_string" as="xs:string" select="fn:string($var3_cur/request/@set)"/>
          <record>
            <language>eng</language>
            <publisher>Georgia Southern University</publisher>
            <xsl:for-each select="$var2_document/publication-title">
              <journalTitle>
                <xsl:sequence select="fn:string(.)"/>
              </journalTitle>
            </xsl:for-each>
            <eissn>24709859</eissn>
            <publicationDate>
              <xsl:sequence select="fn:substring-before(xs:string(xs:dateTime(fn:string($var2_document/publication-date))), 'T')"/>
            </publicationDate>
            <volume>
              <xsl:sequence select="fn:substring-before(fn:substring-after($var1_set_as_string, 'vol'), '/')"/>
            </volume>
            <issue>
              <xsl:sequence select="fn:substring-before(fn:substring-after($var1_set_as_string, 'iss'), '/')"/>
            </issue>
            <xsl:for-each select="($var2_document/fields/field)[(fn:string(@name) = 'doi')]">
              <doi>
                <xsl:sequence select="fn:string(value)"/>
              </doi>
            </xsl:for-each>
            <xsl:for-each select="$var2_document/document-type">
              <documentType>
                <xsl:sequence select="fn:string(.)"/>
              </documentType>
            </xsl:for-each>
          </record>
        </xsl:for-each>
      </records>
    </xsl:template>
  </xsl:stylesheet>
```

The bottom pane shows the Mapping tab with a diagram and the Messages pane indicating successful execution: "TAG - bepress to DOAJ ver003.mfd: Execution successful - 0 error(s), 0 warning(s)".

Preview XSLT.

DIGITAL COMMONS → DOAJ NATIVE XML

The screenshot shows the Altova MapForce Professional Edition v2019 interface. The main window displays the XML output of a transformation process. The XML is structured as follows:

```
<?xml version="1.0" encoding="UTF-8"?>
<records xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:iso_639-2b="http://www.doaj.org/schemas/iso_639-2b/1.0" xsi:noNamespaceSchemaLocation="file:///I:/Altova/DOAJ%20XML%20Project%201018/DOAJ%20XML%20Project/
doajArticles%20.xsd">
  <record>
    <language>eng</language>
    <publisher>Georgia Southern University</publisher>
    <journalTitle>Theory and Applications of Graphs</journalTitle>
    <eissn>24709859</eissn>
    <publicationDate>2017-01-01</publicationDate>
    <volume>4</volume>
    <issue>1</issue>
    <doi>10.20429/tag.2017.040104</doi>
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    <authors>
      <author>
        <name>Yair Caro</name>
      </author>
      <author>
        <name>Josef Lauri</name>
      </author>
      <author>
        <name>Christina Zarb</name>
      </author>
    </authors>
    <abstract>A perfect forest is a spanning forest of a connected graph  $G$ , all of whose components are induced subgraphs of  $G$  and such that all vertices have odd degree in the forest. A perfect forest generalised a
    perfect matching since, in a matching, all components are trees on one edge. Scott first proved the Perfect Forest Theorem, namely, that every connected graph of even order has a perfect forest. Gutin then gave another proof
    We give here two very short proofs of the Perfect Forest Theorem which use only elementary notions from graph theory. Both our proofs yield polynomial-time algorithms for finding a perfect forest in a connected graph of even
    order.</abstract>
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    <eissn>24709859</eissn>
    <publicationDate>2017-01-01</publicationDate>
    <volume>4</volume>
    <issue>1</issue>
    <doi>10.20429/tag.2017.040103</doi>
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    <authors>
      <author>
        <name>Christian Barrientos</name>
      </author>
    </authors>
  </record>
</records>
```

The 'Output' tab is selected, and the 'Messages' pane at the bottom shows a successful execution message: "TAG - bepress to DOAJ ver003.mfd: Execution successful - 0 error(s), 0 warning(s)".


Preview Output.

NEXT STEPS & BRAINSTORMING

THANK YOU!

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